FIRE PREVENTION PROCEDURE

1.0 PURPOSE

This Procedure identifies requirements for inspection, maintenance, and selection of portable fire fighting equipment, and inspection and maintenance of existing fire protection systems in compliance with T8, CCR, 3221 and 6150-6184 and T19, CCR, 550-600.

2.0 DEFINITIONS

CLASS A RATED EXTINGUISHER	For ordinary combustibles such as wood, paper, some plastics, and textiles, where a quenching-cooling effect is required.
CLASS B RATED EXTINGUISHER	For flammable liquid fires, such as oil, gasoline, paint, and grease, where oxygen exclusion or flame-interrupting effect is essential.
CLASS C RATED EXTINGUISHER	For fires involving electrical wiring and equipment where the dielectric non-conductivity of the extinguishing agent is of first importance.
CLASS D RATED EXTINGUISHER	For fires in combustible metals, such as magnesium, titanium, zirconium, lithium, potassium, and sodium.
CLASS A B C EXTINGUISHER	A widely used multi-purpose extinguisher that uses dry chemicals rated for classes A, B, and C.
HAZARD CLASSIFICATION	Used to define fire protection requirements. Hazard Classifications include Light (low) Hazards; Ordinary (moderate) Hazards; and, Extra (high) Hazard.
LIGHT (LOW) HAZARD	Locations where the total amount of Class A combustible materials, is of minor quantity.
ORDINARY (MODERATE) HAZARD	Locations where the total amount of Class A combustibles and Class B flammables are present in greater amounts than expected under Light (Low) Hazard occupancies.
EXTRA (HIGH) HAZARD	Locations where the total amount of Class A combustibles and Class B flammables are present, in storage, production use and/or finished product over and above those expected and classed as ordinary hazards.
STANDPIPE SYSTEM	A wet or dry system of piping, valves, outlets and related equipment designed to provide water at specified pressures and installed exclusively for the fighting of fires.

3.0 SAFE WORK PRACTICES

3.1 GENERAL REQUIREMENTS

3.1.1 Devices and equipment must be approved for the purpose that they are used and maintained in good working condition at all times except during repairs or maintenance.

3.1.2 Personnel designated to inspect, maintain, operate, or repair fire prevention systems shall be trained initially and annually. Service, repair, and maintenance must be performed within the manufacturer's specifications. Personnel who may operate fire prevention systems shall be trained in the use, limitations, and hazards of devices and equipment and incipient-stage fire fighting.

3.1.3 Periodic maintenance and inspection are required of all equipment as specified below.

3.2 PORTABLE FIRE EXTINGUISHERS

3.2.1 Extinguisher sites must be clearly identified and easily accessible for use by trained personnel.

3.2.2 Fire extinguishers shall be maintained in a fully charged condition and kept in their designated places at all times except during use or servicing, in which an adequate "loaner" extinguisher will be put in its place during this servicing. Each extinguisher must have a service tag attached in such a manner that it is easily inspected. Extinguisher selection and distribution shall be based on the classes of anticipated fires and on the hazard classification. Appendix A has information on extinguisher selection.

3.2.3 Fire extinguishers shall be conspicuously located in the workplace, along normal paths of travel and at exits, so that at any point in the work area personnel do not have to travel greater than 75 feet to reach an extinguisher. Exception: Class B-rated hazard areas (flammable or combustible liquids, gases, and greases) require 50 feet maximum distance to fire extinguishers.

3.2.4 Fire extinguishers must be installed on brackets, hangers, or in unlocked cabinets, and be readily accessible to employees without subjecting the employees to possible injury.

A. Clearance between the bottom of the extinguisher and the floor must be at least 4 inches.

B. Extinguishers weighing 40 lbs. or less must be installed so the top of the extinguisher is not more than 5 feet above the floor.

C. Extinguishers weighing more than 40 lbs. must be installed so the top of the extinguisher is not more than 3 1/2 feet above the floor.

3.2.5 Monthly inspections must be performed on all portable fire extinguishers (see GSP 101.001 Monthly Safety Inspection Procedure). Written records noting the date of the inspection, the initials of the person performing the inspection, and all required and/or completed corrective actions shall be maintained for one (1) year. If immediate corrective action is not possible, a deficient extinguisher must be replaced with an equally rated substitute extinguisher.

3.2.6 A maintenance check is required for rechargeable extinguishers annually, immediately after use, and when inspection reveals tampering, damage, incorrect pressure reading, or corrosion. Maintenance and service may only be performed by licensed personnel in accordance with the State Fire Code. Upon completion of the annual maintenance, a service tag must be attached to the extinguisher and remain attached until the next servicing.

3.2.7 Hydrostatic testing must be performed by trained personnel at intervals defined in Appendix B, Table L-1, or when inspection reveals evidence of corrosion, mechanical injury, or damage. A label must be affixed to the shell, including the date of the test, signature of the person who performed the test, and the serial number or other identifier of the extinguisher that was tested. These records must be maintained until subsequent hydrostatic tests are performed on the same equipment.

3.2.8 Personnel shall not attempt to fight any fire without first reporting the fire in accordance with established procedures.

3.2.9 Personnel required to use a portable extinguisher must never attempt to fight a fire if the fire is between themselves and an exit path.

3.3 STANDPIPE AND HOSE SYSTEMS – FIRE DEPARTMENT USE ONLY

3.3.1 All standpipe and hose systems must meet National Fire Protection Association (NFPA) requirements and shall be protected against mechanical damage. The water source must be kept in a fully open position and verified monthly. Hose outlets and connections must be located high enough above the floor to avoid being obstructed and to be accessible to employees. The hose outlet must be equipped with hose connected and ready for use at all times. Damaged standpipes must be repaired immediately.

3.3.2 Hose reels and cabinets must be conspicuously identified, accessible, and used only for fire equipment.

3.3.3 Hose systems must be inspected by trained personnel at least annually and after each use to assure that all the equipment and hoses are in place, available for use, and in serviceable condition. Equipment requiring repair must be immediately taken out of service and replaced with a comparable method of fire protection. Records of these inspections and equipment repair shall be maintained for 3 years.

3.3.4 Do not use hose streams against flammable liquid or electrical fires.

3.4 AUTOMATIC SPRINKLER SYSTEMS

3.4.1 Automatic sprinkler systems must be maintained operable at all times, and maintenance inspections shall be performed at least quarterly. Maintenance inspections shall be conducted by a qualified person designated by management. Any deficiency noted during this inspection must be immediately corrected, and written records of the inspection and any corrective action must be retained on site for 5 years.

3.4.2 Each system must have a label attached at the time of service by a licensed person. The label must include the words "DO NOT REMOVE BY ORDER OF THE STATE FIRE MARSHAL" as well as the name, address, license number, and signature of the person performing the service; and the date of service.

3.4.3 A main drain flow test must be performed annually for each system, and the inspector's test valve shall be opened every six months to assure the sprinkler system operates properly. Records of these tests shall be retained for 5 years.

3.4.4 All fire sprinklers must be clear from obstructions for 18 inches below the sprinkler head.

3.5 FIXED EXTINGUISHING SYSTEMS

3.5.1 Both dry chemical and gaseous agent (e.g., CO_2) systems shall be designed and approved for use on the specific fire hazards they are expected to control or extinguish.

3.5.2 Systems shall only be repaired by qualified personnel. In the event that a system is inoperable, personnel working in the area must be notified, and interim safeguards (i.e., firewatch) must be implemented.

3.5.3 Systems must have a distinct discharge alarm which is capable of being perceived above ambient noise and light levels.

Exception: Discharge alarms are not required on systems where discharge is immediately recognizable. Warning or caution signs must be posted, and effective safeguards shall be in place in areas protected by fixed extinguishing systems which use agents in concentrations known to be hazardous to human safety and health.

3.5.4 Annually, qualified personnel must inspect and perform maintenance activities on fixed systems to assure they are maintained in good operating condition. Each dry chemical supply must be sampled to assure it is free of moisture that may cause the supply to cake or form lumps. Inspection dates must be recorded on the container, on a tag attached to the container, or in a central location. These records shall be kept until the next servicing.

3.5.5 Semi-annually, the weight and pressure of refillable containers must be checked. If the container shows a loss in net weight of more than 5%, or a loss in pressure of more than 10%, maintenance or replacement is required. Records of these weights must be documented and maintained until the container is checked again, or for the life of the container, whichever is less.

3.5.6 Systems must have a manual initiating device, which is clearly identified.

3.5.7 Wherever there is a possibility that employees may be trapped in or enter atmospheres made hazardous by extinguishing agents, the City shall provide suitable safeguards to ensure evacuation, prevent entry, and/or provide means of rescue of trapped personnel. Safeguards include, but may not be limited to, disabling the system to prevent inadvertent discharge, warning signs, discharge alarms, pre-discharge alarms, and breathing apparatus.

3.6 FIRE AND EVACUATION ALARM SYSTEMS (T8 CCR 3220 (c)(1)(2))

3.6.1 Employees shall be made aware of means and methods to report emergencies. Methods include, but are not limited to, alarm pull boxes, public address systems, radios, or telephones. In areas where telephones are the primary means of reporting an emergency, telephone numbers of

emergency contacts (or 911) must be conspicuously posted nearby the phone (T8 CCR 3220 (b)(5)).

3.6.2 Non-supervised employee alarm systems shall be tested every 2 months. A different actuation device must be used in each test of a multi-actuation device system so that all devices are tested before each device is tested again.

3.6.3 When systems are out of service, a back up means of alarm should be designated, and all employees must be made aware of the alternate means of alarm.

3.6.4 Audible devices installed as a part of a system shall be of such type, number and placement as to ensure audibility throughout the protected area under normal ambient sound conditions.

3.7 FIRE DETECTION SYSTEMS

3.7.1 Fire detection systems and components must be restored to normal operating condition immediately after each test or alarm.

3.7.2 Servicing, maintenance and testing of fire detection systems, including cleaning and necessary sensitivity adjustments, must be performed by a trained person knowledgeable in the operations and functions of the systems. Systems shall be tested and adjusted as often as needed to maintain proper reliability and operating condition. The Uniform Fire Code (UFC) and NFPA (72E-Chapter 8) publish a variety of testing and inspection schedules depending on the type of fire detection system.

3.7.3 Detection equipment shall be protected from mechanical or physical damage, and shall be supported independently of their attachment to wires or tubing.

3.7.4 Fire detection systems installed for the purpose of actuating fire extinguishing or suppression systems shall be designed and approved for use with the extinguishing or suppression system that they operate.

3.8 FIRE PREVENTION

3.8.1 Each Facility's written fire prevention plan is contained in each department's Emergency Procedures Program for that facility (T8 CCR 3221(l)).

3.8.2 Flammables and combustibles must be properly stored, and work areas must be maintained in an orderly fashion.

4.0 RESPONSIBILITIES (T8 CCR 3221 (b)(2))

4.1 Management shall:

4.1.1 Ensure that approved fire extinguishers are available as required by this Procedure.

4.1.2 Maintain service agreements with a licensed fire protection company to provide service as required in this Procedure. Copies of service records shall be maintained on-site for 5 years.

4.1.3 Ensure that all fire alarm and protection systems are designed and installed by licensed professionals.

4.2.4 Ensure that all Floor Wardens within their facility receive fire extinguisher training and that training records are maintained.

4.2 Supervisors shall:

4.2.1 Ensure that all fire protection equipment within their work area is inspected and maintained in a fully charged and operational condition.

4.2.3 Ensure employees under their supervision are aware of the fire emergency reporting and are aware of evacuation routes and assembly areas.

4.3 Employees shall*:*

4.3.1 Report any fire protection equipment malfunction or defect to any supervisor or manager.

4.3.2 Report the use of fire extinguishers to any supervisor or manager.

Appendix A

Table 1
Fire Extinguisher Size and Placement for Class A Fire Hazards

	Light (Low) Hazard Occupancy (e.g., offices, churches)	Ordinary (Moderate) Hazard Occupancy (e.g., parking garages, storage areas, some offices)	Extra (Heavy) Hazard Occupancy (e.g., woodworking shops, warehouses, aircraft maintenance areas)
Minimum rated single extinguisher	2-A	2-A	4-A*
Maximum floor area per Fire Extinguisher "A" Rating Unit (e.g. 2-A, 3-A, 20-A)	3,000 sq. ft	1,500 sq. ft	1,000 sq. ft
Maximum travel distance to extinguisher	75 ft	75 ft	75 ft

* Two 2 1/2 gal (9.46 L) water type extinguishers can be used to fulfill the requirement of one 4-A rated extinguisher.

Table 2
Fire Extinguisher Size and Placement for Class B Fire Hazards

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance to Extinguishers (in feet)
Light (low)	5B 10B	30 50
Ordinary (moderate)	10B 20B	30 50
Extra (high)	40B 80B	30 50

Note 1: The specified rating does not imply that fires of the magnitudes indicated by these ratings will occur, but rather to give the operators more time and agent to handle difficult spill fires that may occur.

Note 2: Tables taken from CCR Title 19, Section 568 and 569, respectively.

Appendix B
TABLE L-1

Type of Extinguisher	Test Interval (years)
Soda acid (soldered brass shells) (until 1/1/82)	(*)
Soda acid (stainless steel shell)	5
Cartridge operated water and/or antifreeze	5
Stored water pressure and/or antifreeze	5
Wetting agent	5
Foam (soldered brass shells) (until 1/1/82)	(*)
Foam (stainless steel shell)	5
Aqueous Film Forming Foam (AFFF)	5
Loaded stream	5
Dry chemical with stainless steel	5
Carbon dioxide	5
Dry chemical, stored pressure, with mild steel, brazed brass or aluminum shells	12
Dry chemical, cartridge or cylinder operated, with mild steel shells	12
Halon 1211	12
Halon 1301	12
Dry Powder, cartridge or cylinder operated with mild steel shells	12

* Extinguishers having shells constructed of copper or brass joined by soft solder or rivets shall not be hydrostatically tested and shall be removed from service by January 1, 1982 (Not permitted).